FIG. 1

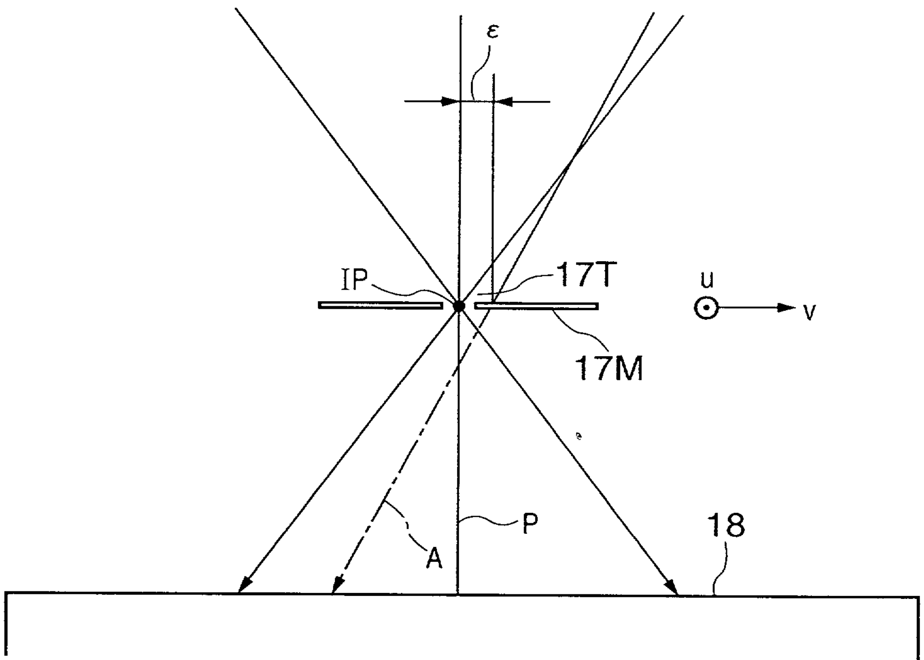


FIG. 2

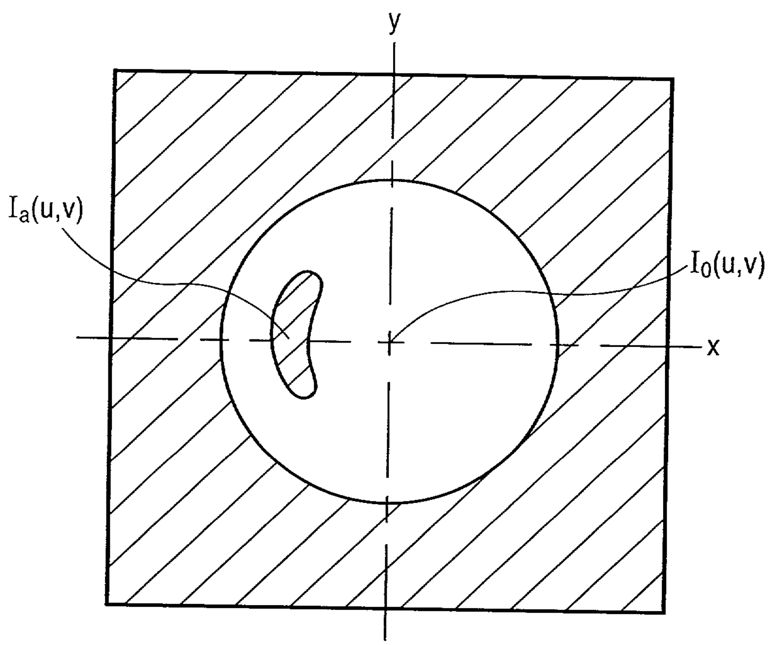


FIG. 3

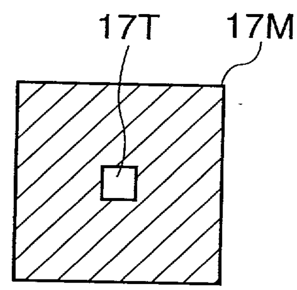


FIG. 4A

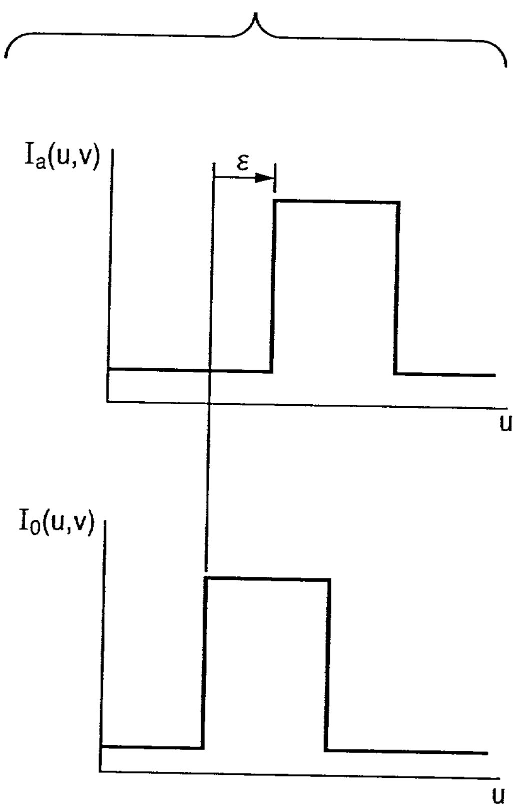


FIG. 4B

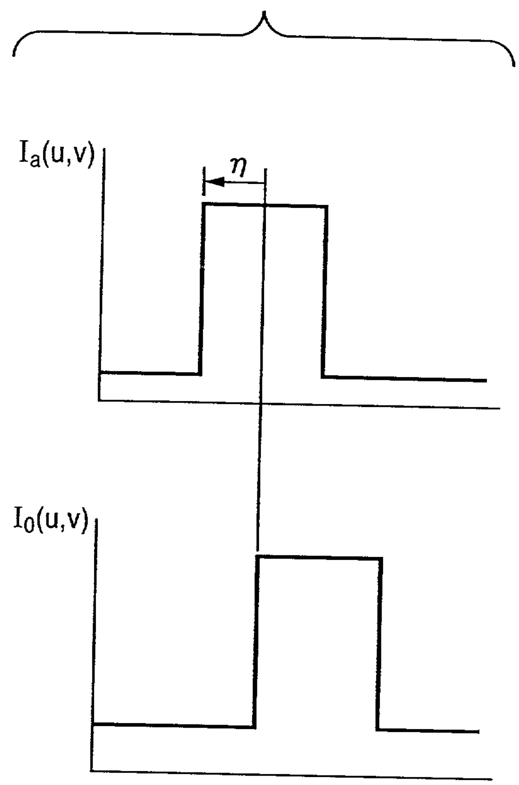


FIG. 5

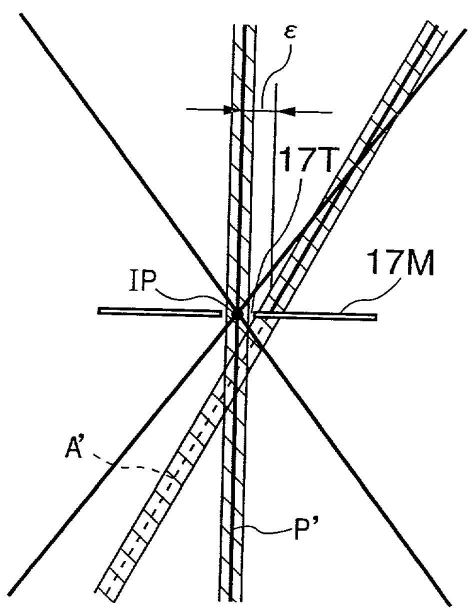


FIG. 6A

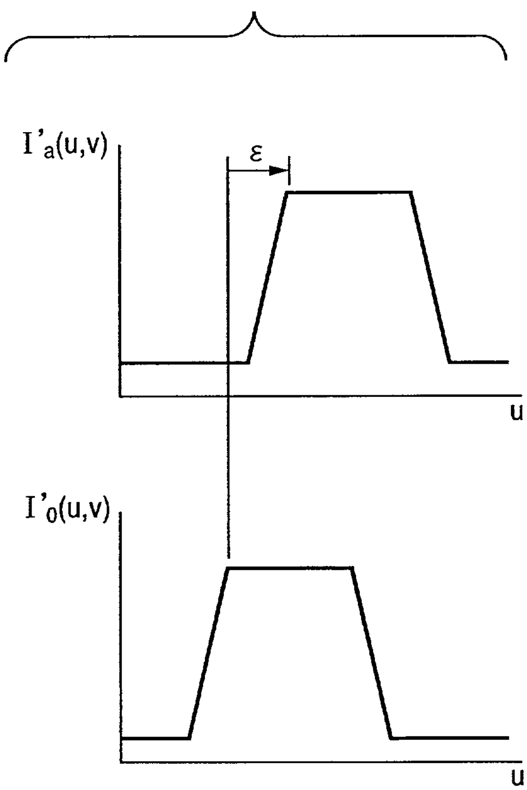


FIG. 6B

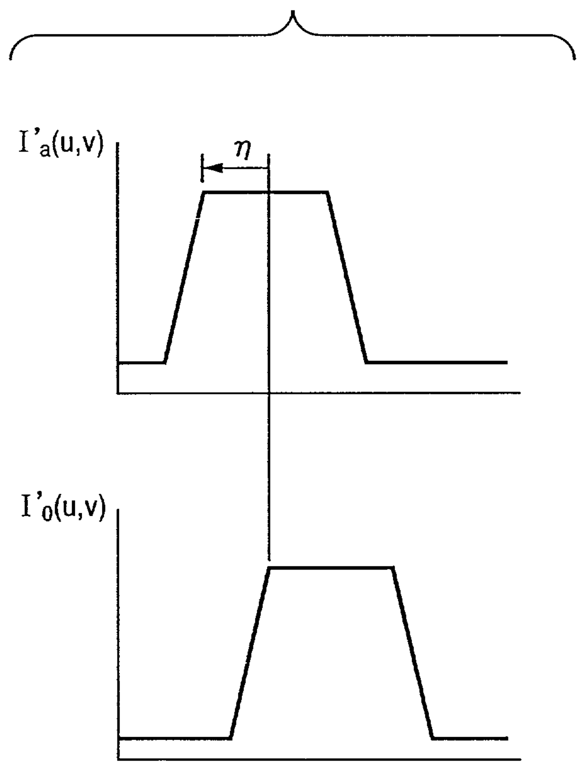


FIG. 7

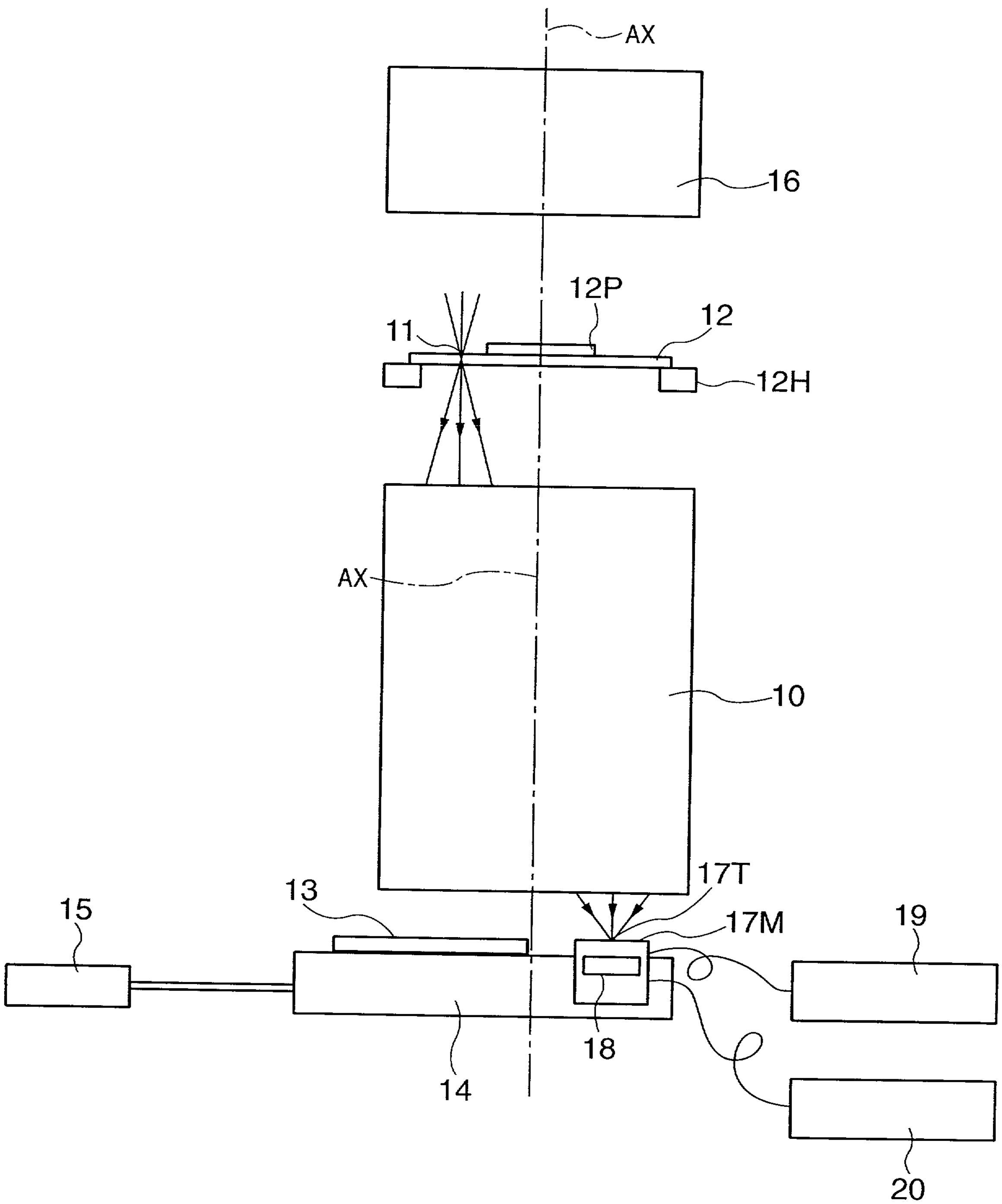


FIG. 8

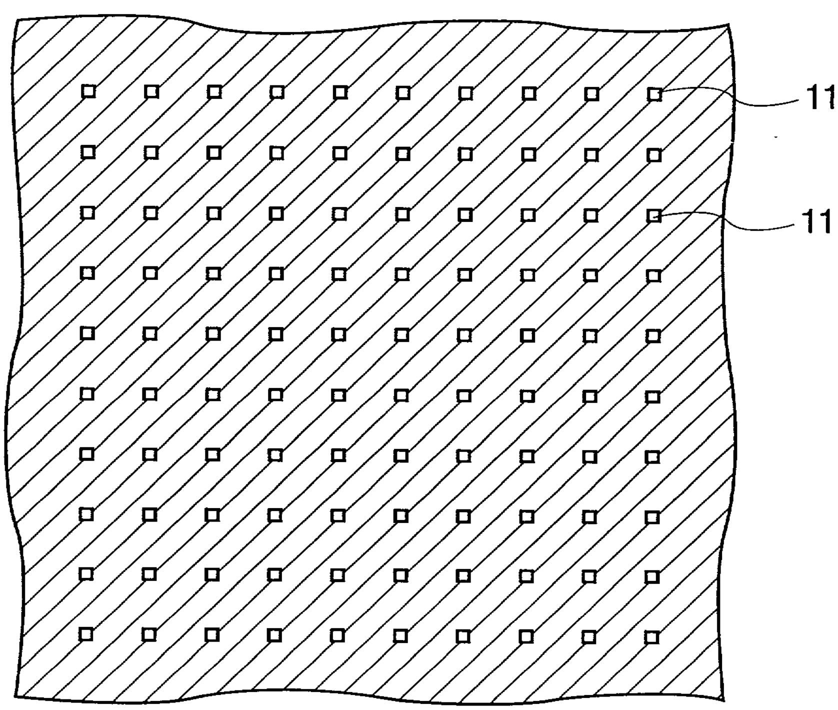


FIG. 9

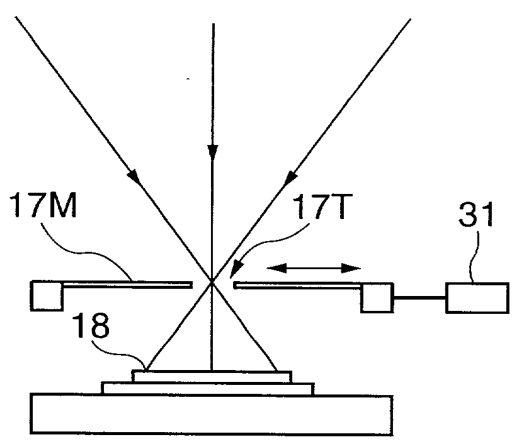


FIG. 10

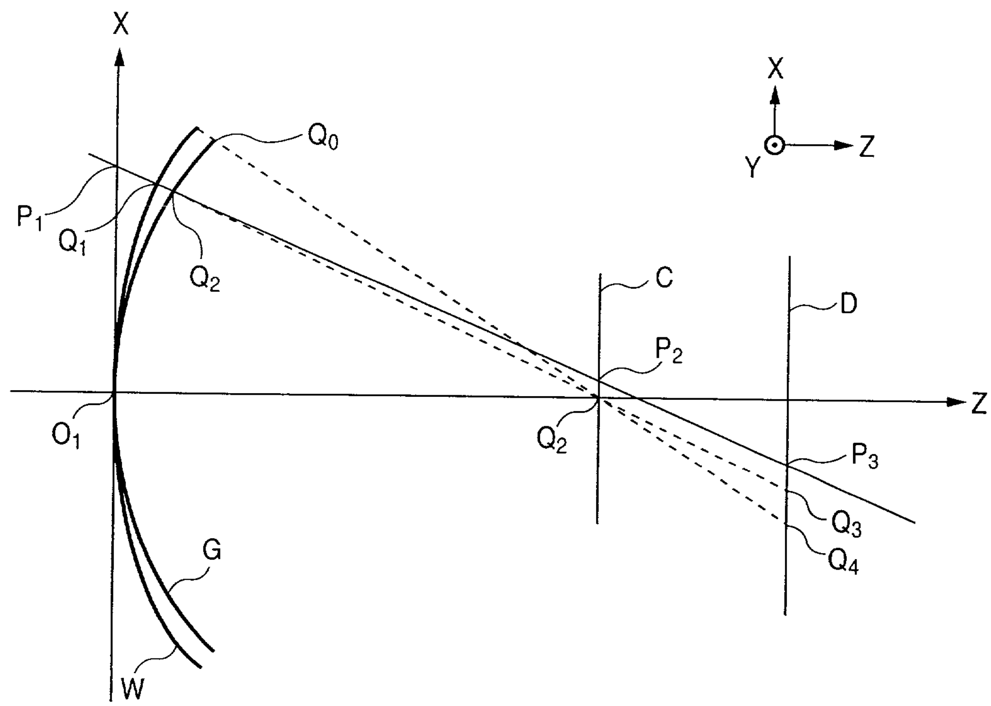


FIG. 11

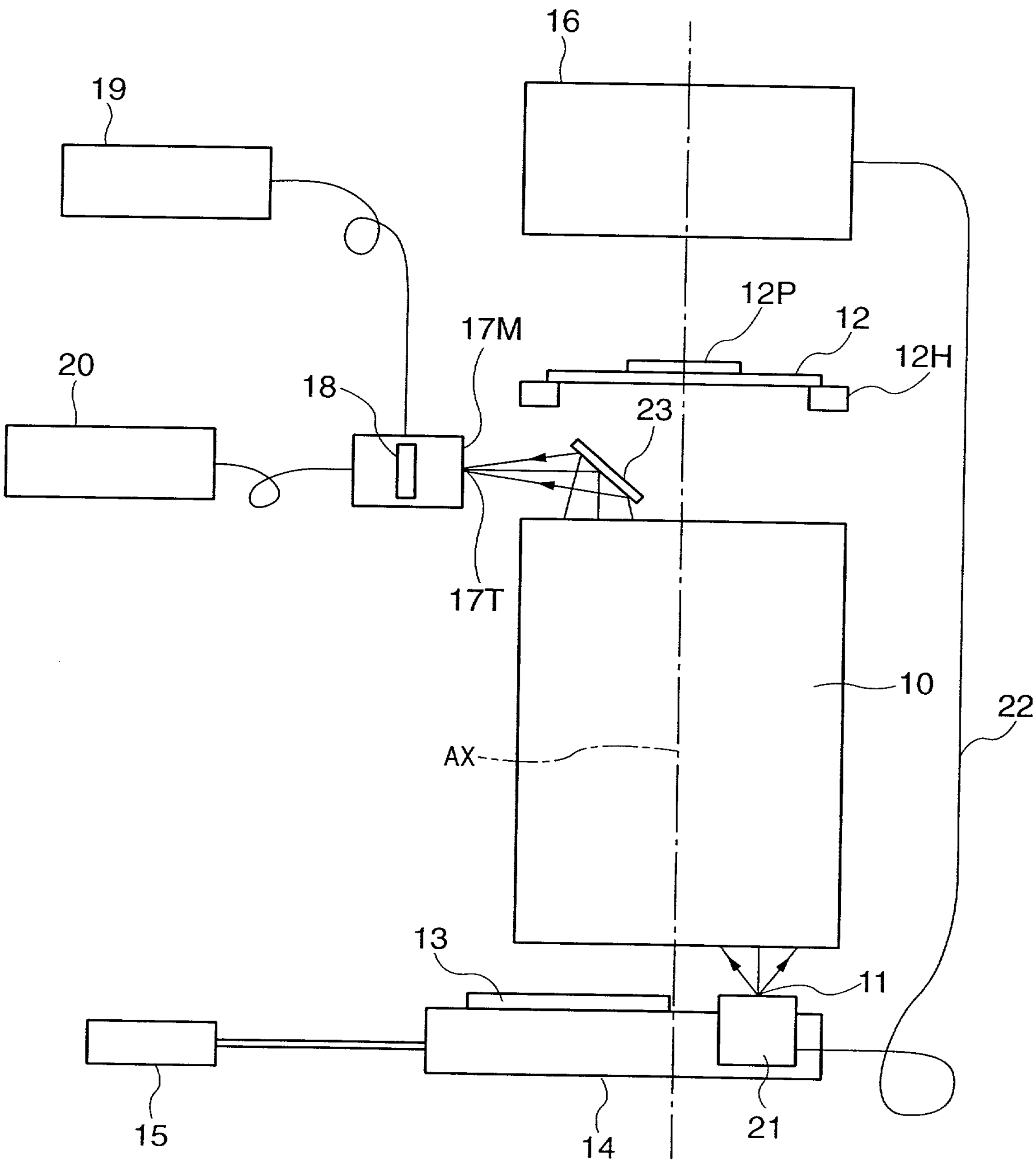


FIG. 12

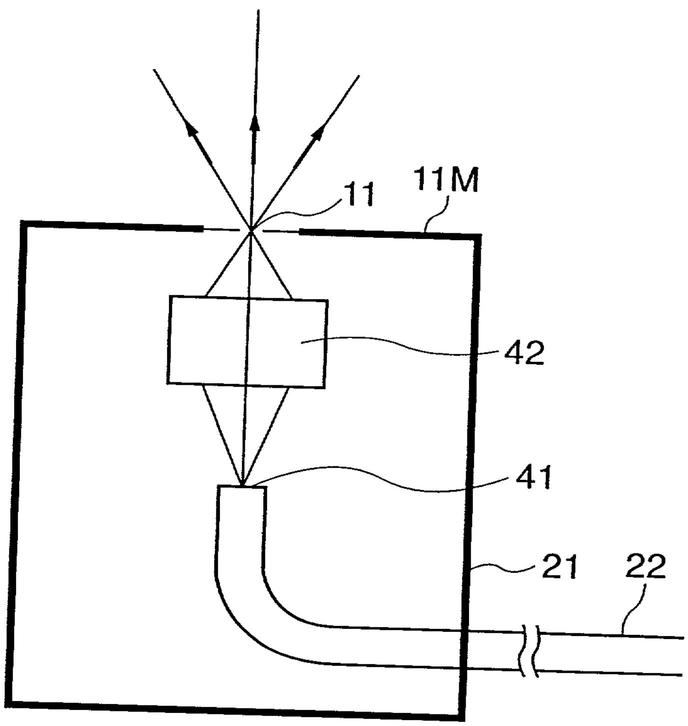


FIG. 13

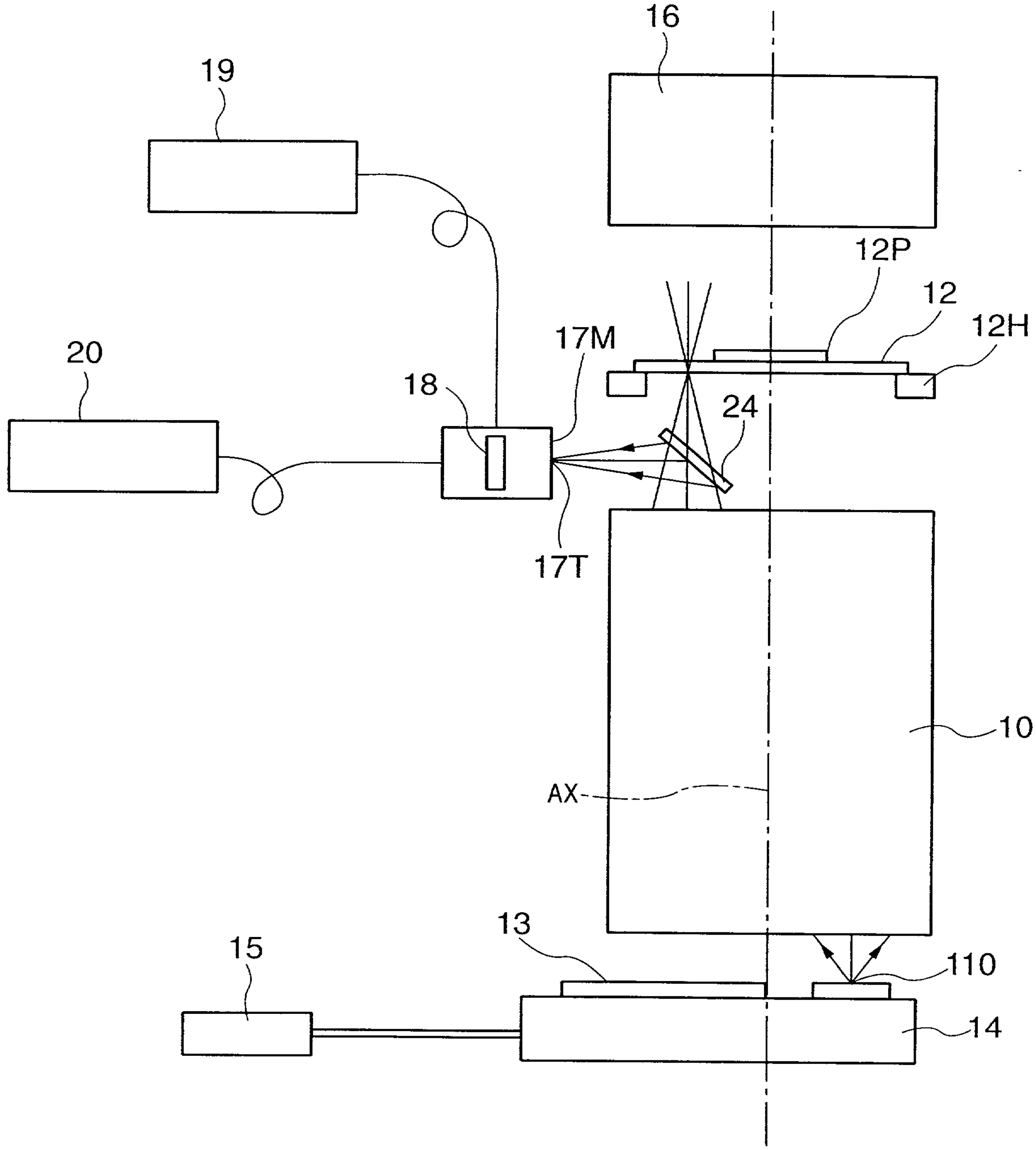


FIG. 14

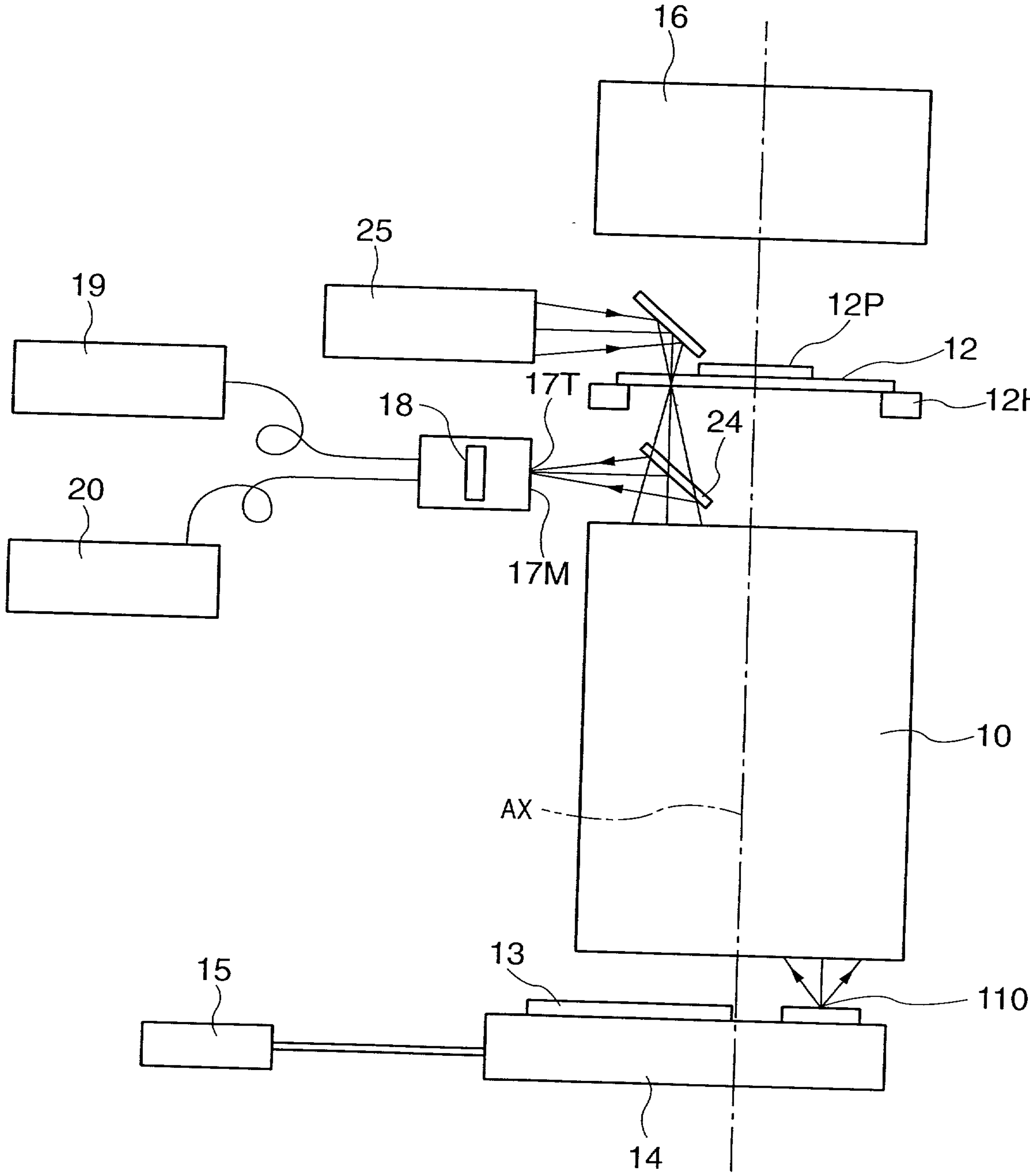


FIG. 15

$$\varepsilon=\left(1+\frac{\Delta R}{R}\right)\cdot\frac{R}{H_0}\cdot\frac{\partial\Phi}{\partial x}=\left(1+\frac{\Delta R}{R}\right)\cdot\frac{1}{NA_0}\cdot\frac{\partial\Phi}{\partial x}\quad\cdots\cdots\cdots(3)$$

$$\eta=\left(1+\frac{\Delta R}{R}\right)\cdot\frac{R}{H_0}\cdot\frac{\partial\Phi}{\partial y}=\left(1+\frac{\Delta R}{R}\right)\cdot\frac{1}{NA_0}\cdot\frac{\partial\Phi}{\partial y}\quad\cdots\cdots\cdots(4)$$

$$\alpha=\left(1+\frac{\Delta L}{L}\right)\cdot\frac{L}{R}\cdot\frac{R}{H_0}\cdot\frac{\partial\Phi}{\partial x}=\left(1+\frac{\Delta L}{L}\right)\cdot\frac{L}{R}\cdot\frac{1}{NA_0}\cdot\frac{\partial\Phi}{\partial x}=\frac{L\left(1+\frac{\Delta L}{L}\right)}{R\left(1+\frac{\Delta R}{R}\right)}\cdot\varepsilon\quad\cdots\cdots\cdots(5)$$

$$\beta=\left(1+\frac{\Delta L}{L}\right)\cdot\frac{L}{R}\cdot\frac{R}{H_0}\cdot\frac{\partial\Phi}{\partial y}=\left(1+\frac{\Delta L}{L}\right)\cdot\frac{L}{R}\cdot\frac{1}{NA_0}\cdot\frac{\partial\Phi}{\partial y}=\frac{L\left(1+\frac{\Delta L}{L}\right)}{R\left(1+\frac{\Delta R}{R}\right)}\cdot\eta\quad\cdots\cdots\cdots(6)$$

FIG. 16

$$X'' = X' + \alpha \quad \cdots\cdots\cdots \quad (7)$$

$$Y'' = Y' + \beta \quad \cdots\cdots\cdots \quad (8)$$

$$\frac{X}{H_0} = \frac{X'}{H'_0} = x \quad \cdots\cdots\cdots \quad (9)$$

$$\frac{Y}{H_0} = \frac{Y'}{H'_0} = y \quad \cdots\cdots\cdots \quad (10)$$

$$x = \frac{X''}{H'_0} - \frac{\alpha}{H'_0} \quad \cdots\cdots\cdots \quad (11)$$

$$y = \frac{Y''}{H'_0} - \frac{\beta}{H'_0} \quad \cdots\cdots\cdots \quad (12)$$

FIG. 17

$$\frac{\Delta R}{R} \ll 1 \cdots\cdots\cdots (13)$$

$$\frac{\Delta L}{L} \ll 1 \cdots\cdots\cdots (14)$$

$$\frac{\alpha}{H'_0} = \frac{1}{H'_0} \cdot \frac{L}{R} \cdot \varepsilon \ll 1 \cdots\cdots\cdots (15)$$

$$\frac{\beta}{H'_0} = \frac{1}{H'_0} \cdot \frac{L}{R} \cdot \eta \ll 1 \cdots\cdots\cdots (16)$$

$$\varepsilon\,(x,y) = \frac{1}{NA_0} \cdot \frac{\partial \Phi}{\partial x} \cdots\cdots\cdots (3')$$

$$\eta\,(x,y) = \frac{1}{NA_0} \cdot \frac{\partial \Phi}{\partial y} \cdots\cdots\cdots (4')$$

$$x = \frac{X''}{H'_0} \cdots\cdots\cdots (11')$$

$$y = \frac{Y''}{H'_0} \cdots\cdots\cdots (12')$$

FIG. 18

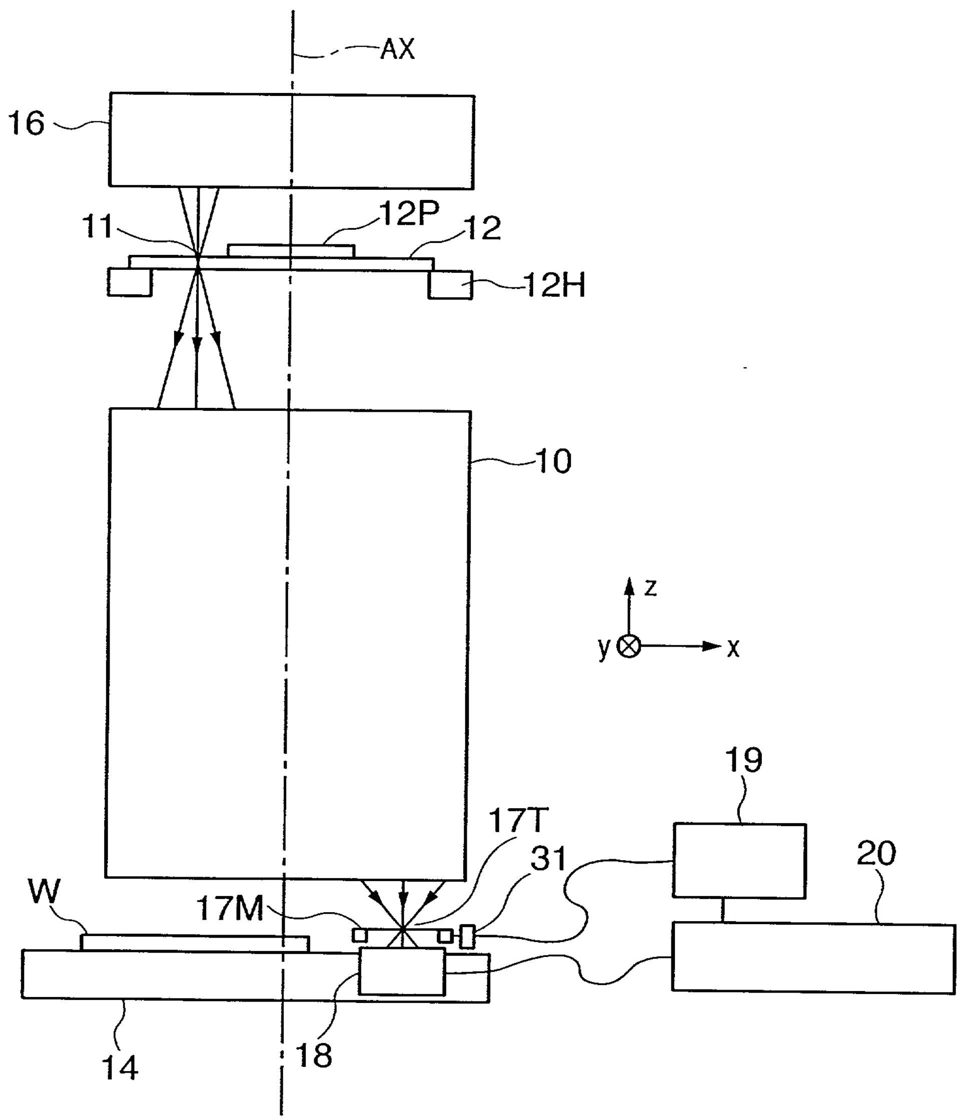
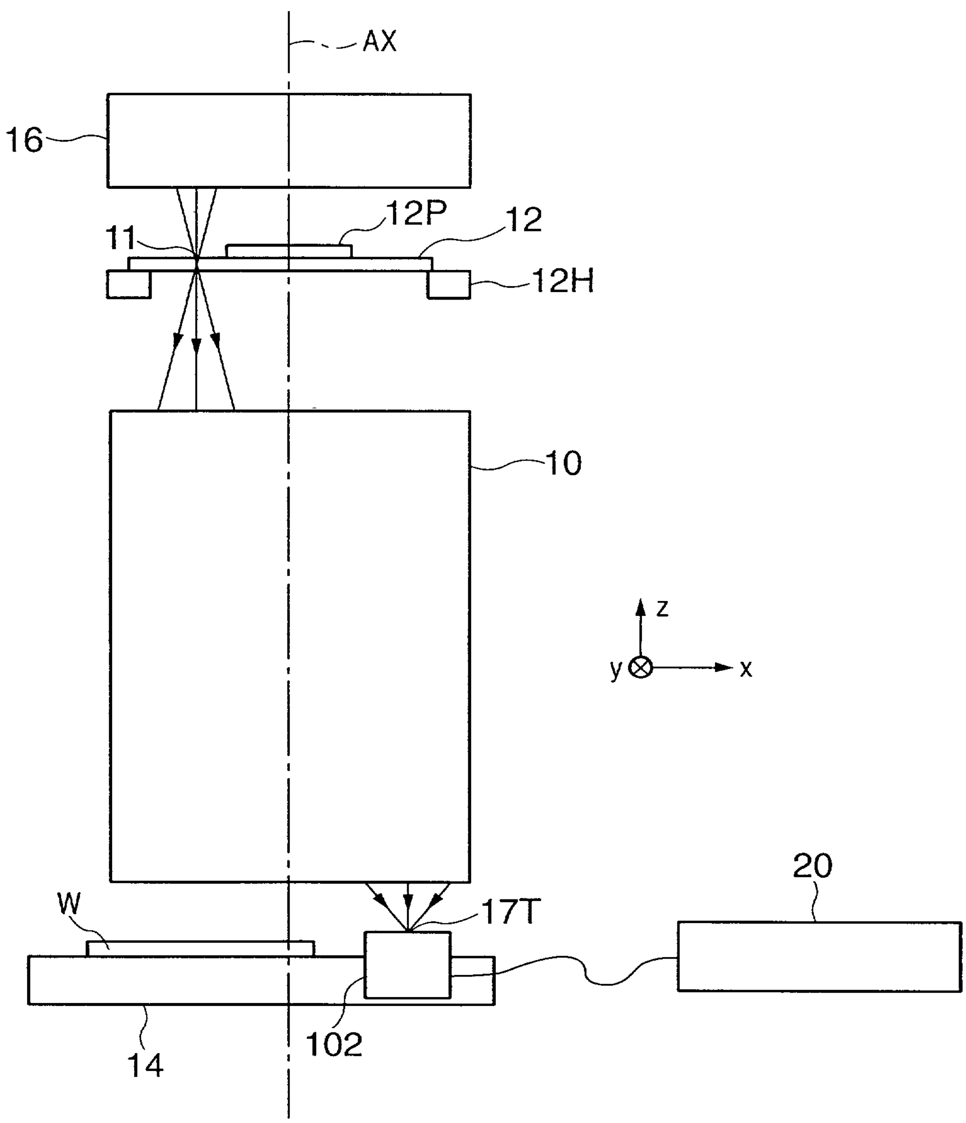


FIG. 19



F I G. 20

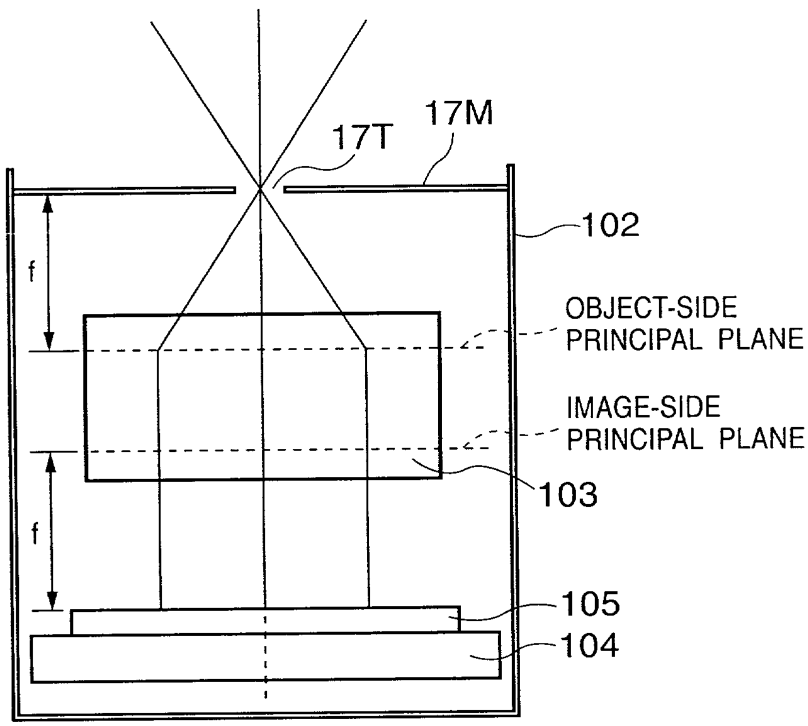
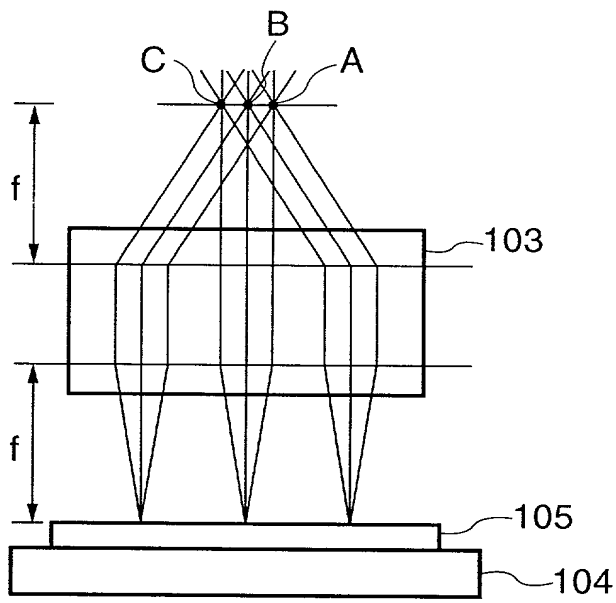

17T
17M
102
f
OBJECT-SIDE
PRINCIPAL PLANE
IMAGE-SIDE
PRINCIPAL PLANE
103
f
105
104

FIG. 21



F I G. 22

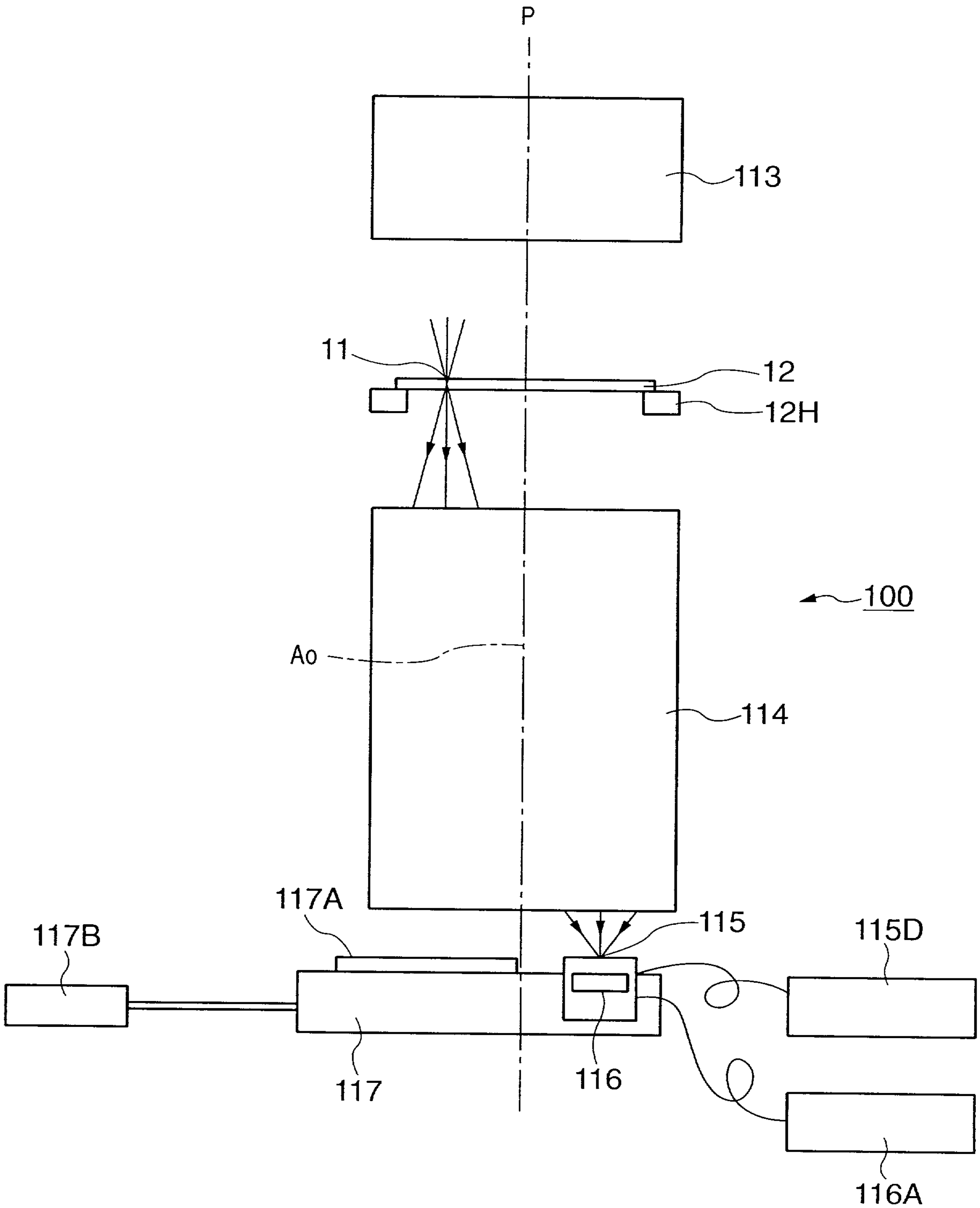
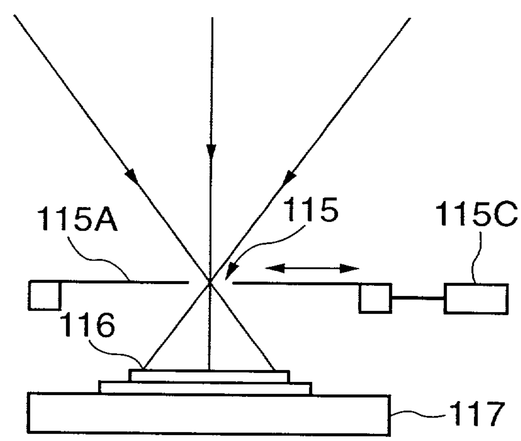


FIG. 23



F I G. 24

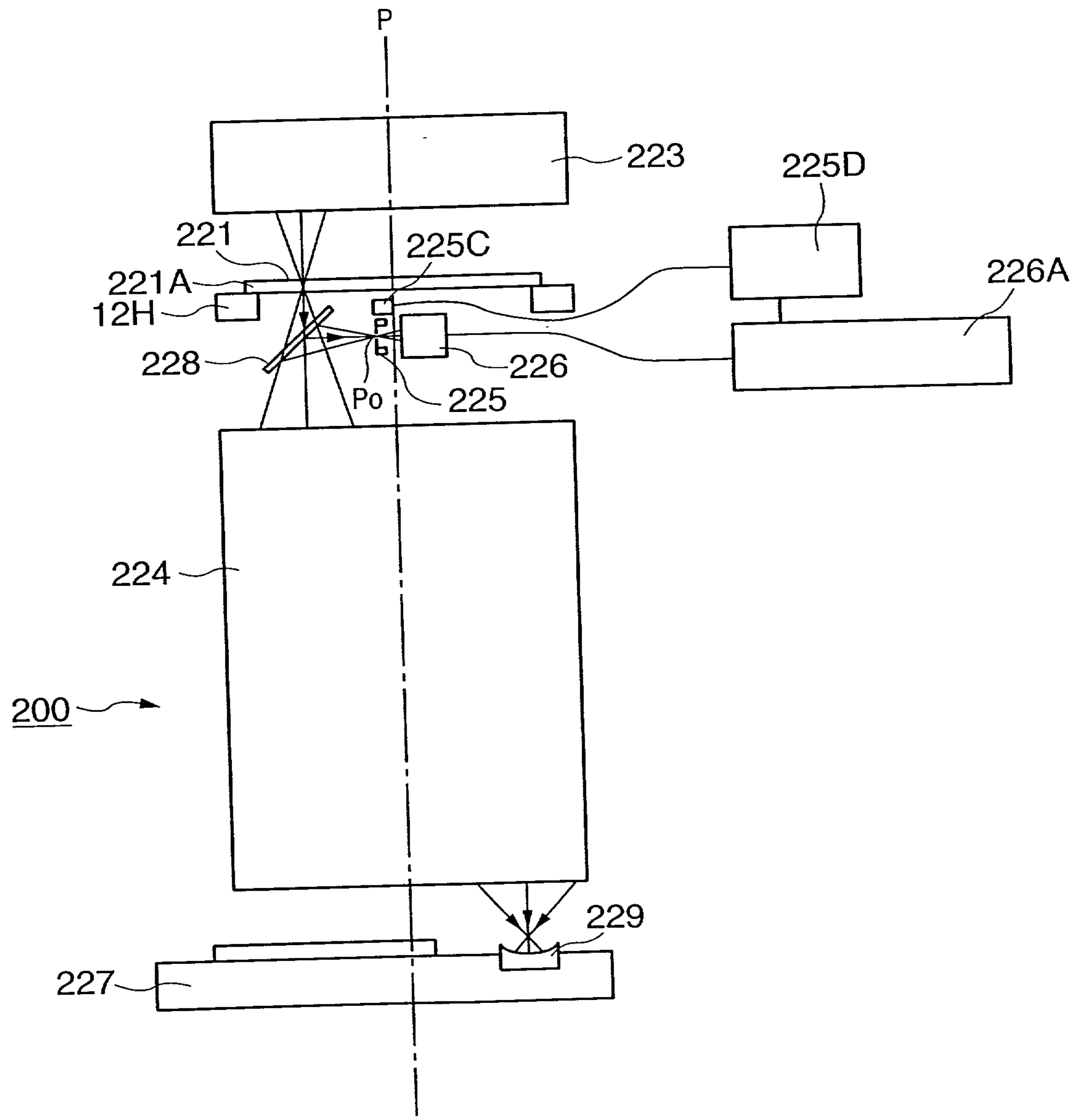

P
223
225D
221
225C
226A
221A
12H
P
L
228
226
Po
225
224
200
229
227

FIG. 25

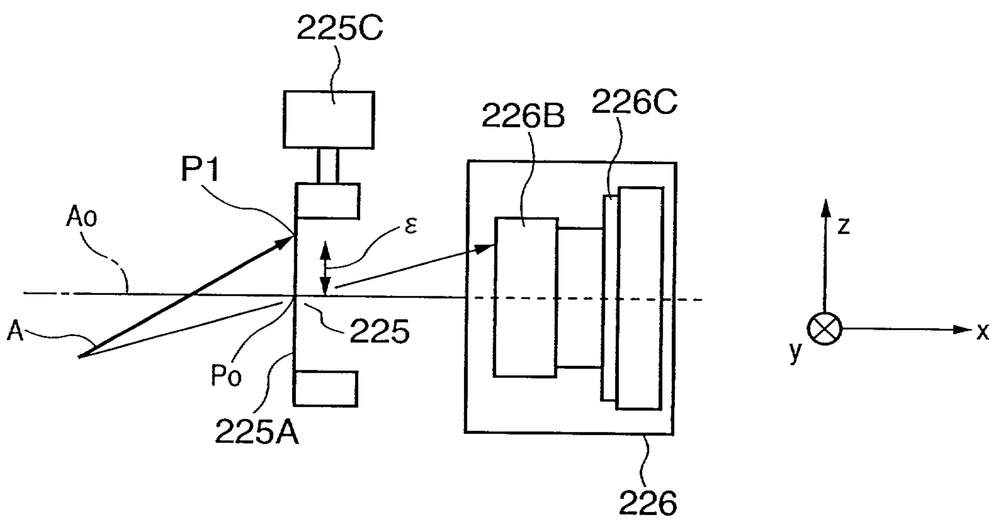


FIG. 26A

FIG. 26B

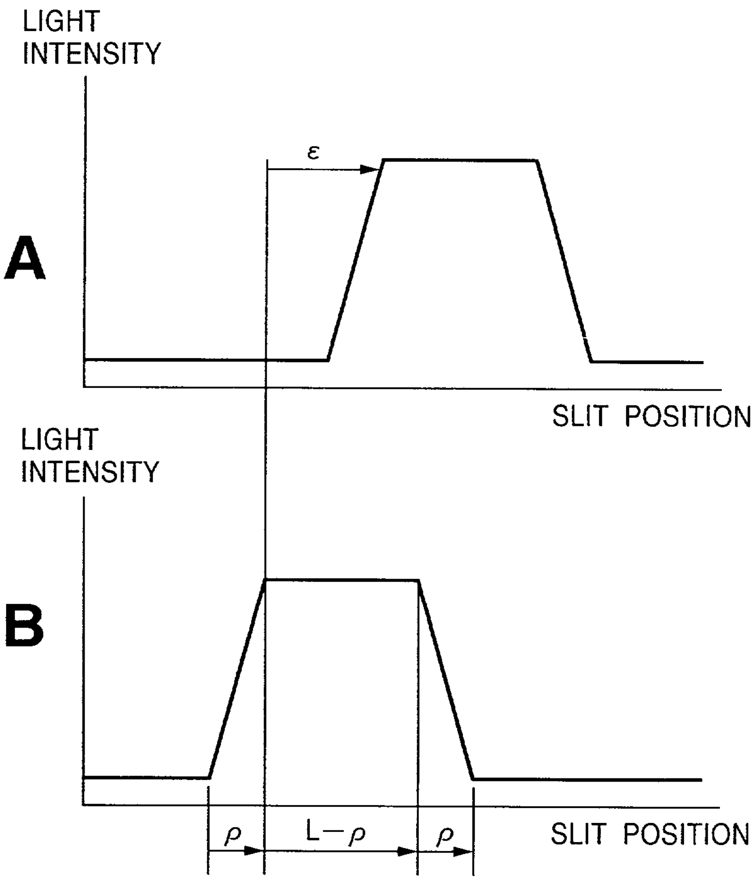
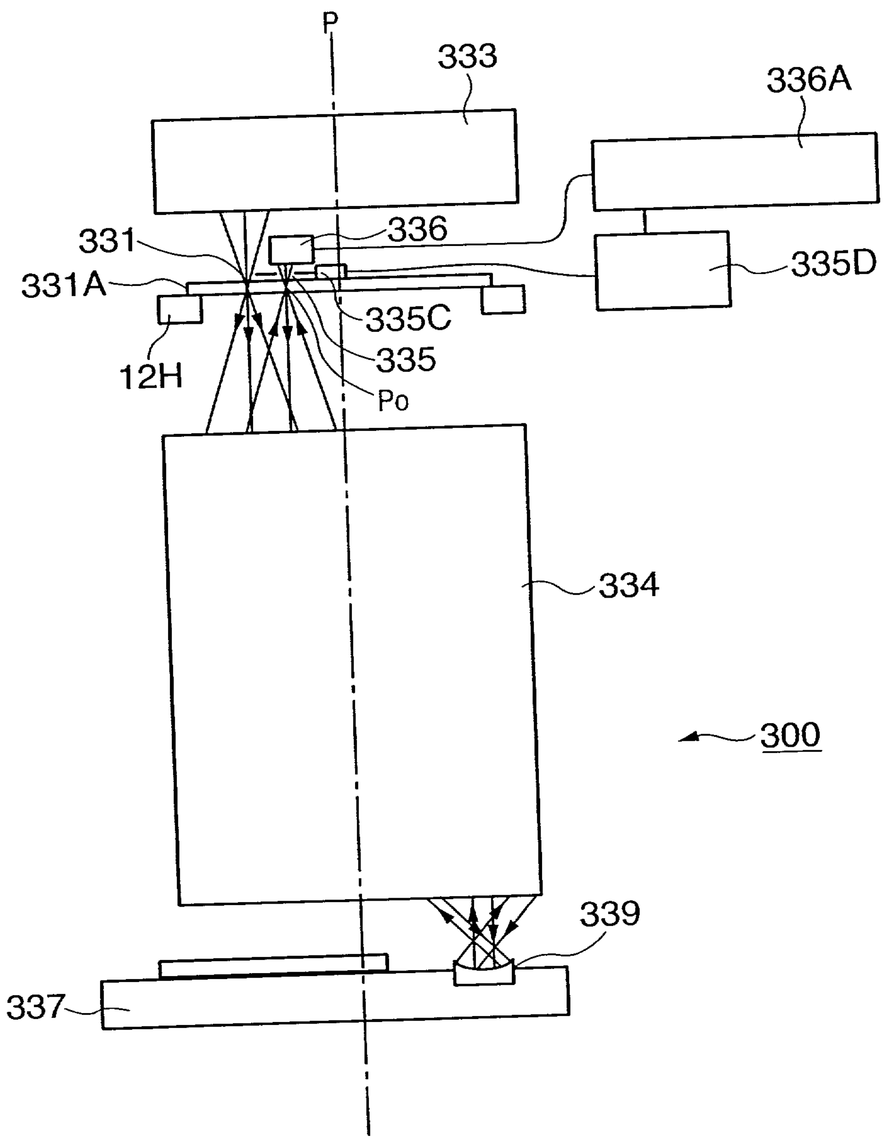
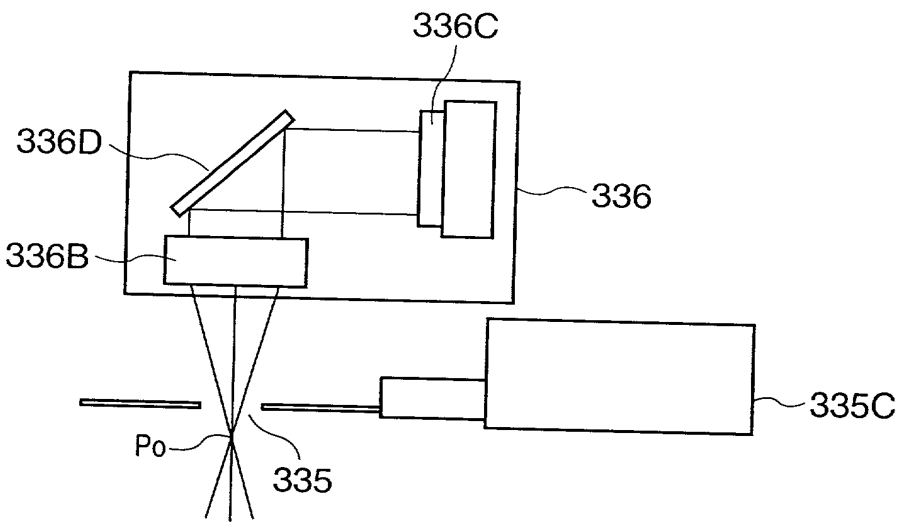


FIG. 27



F I G. 28



F I G. 29

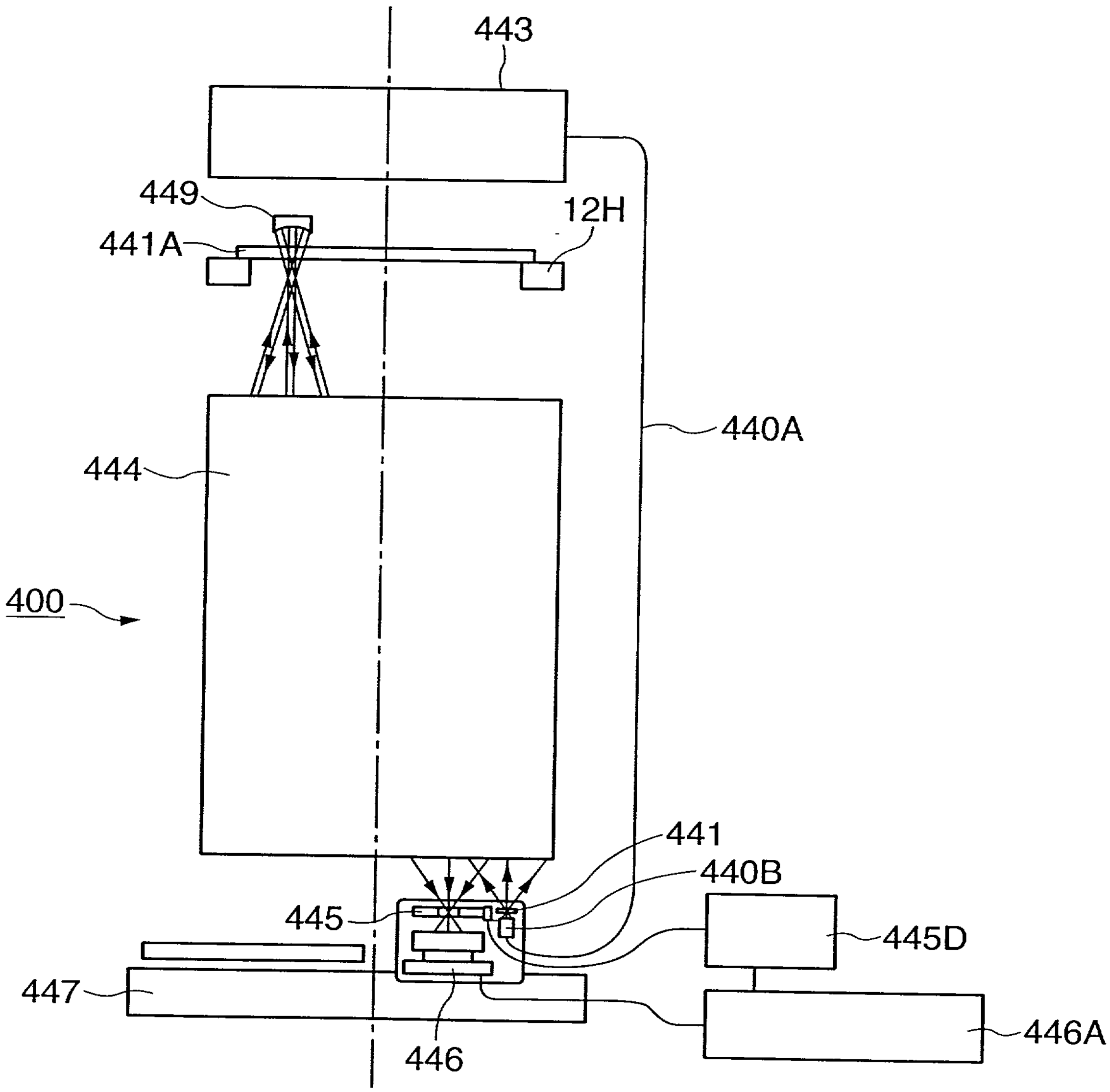


FIG. 30

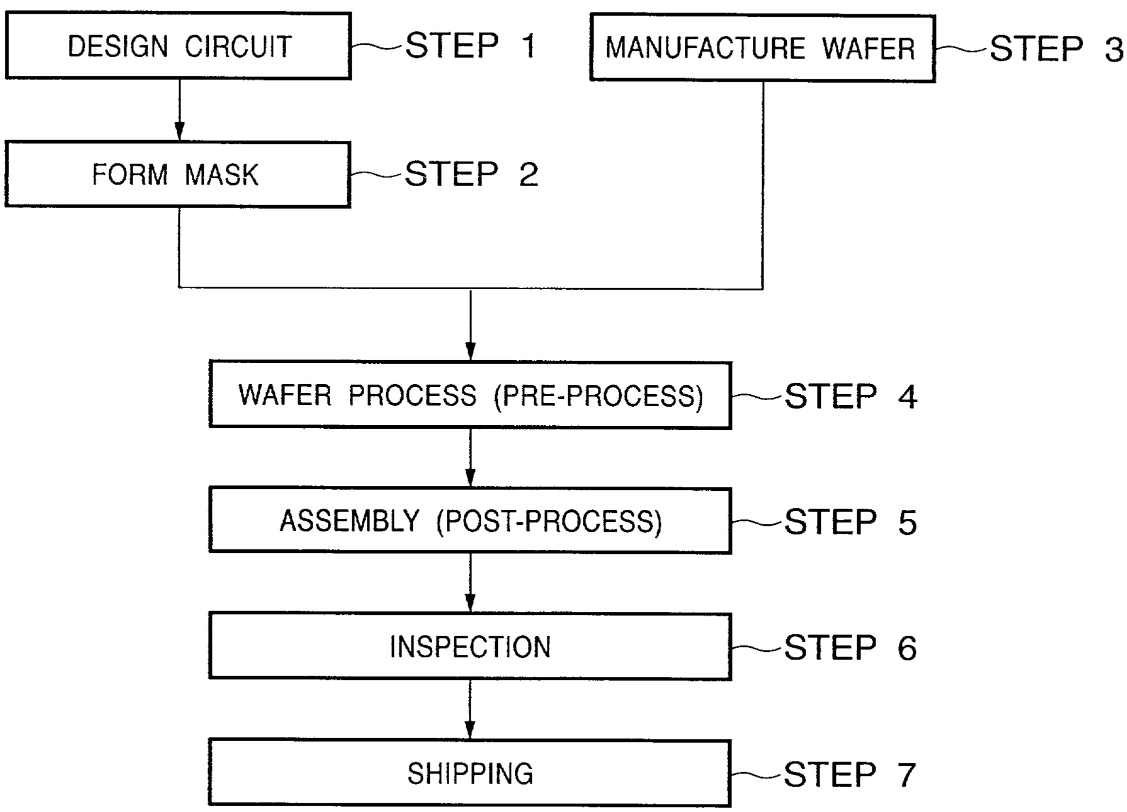
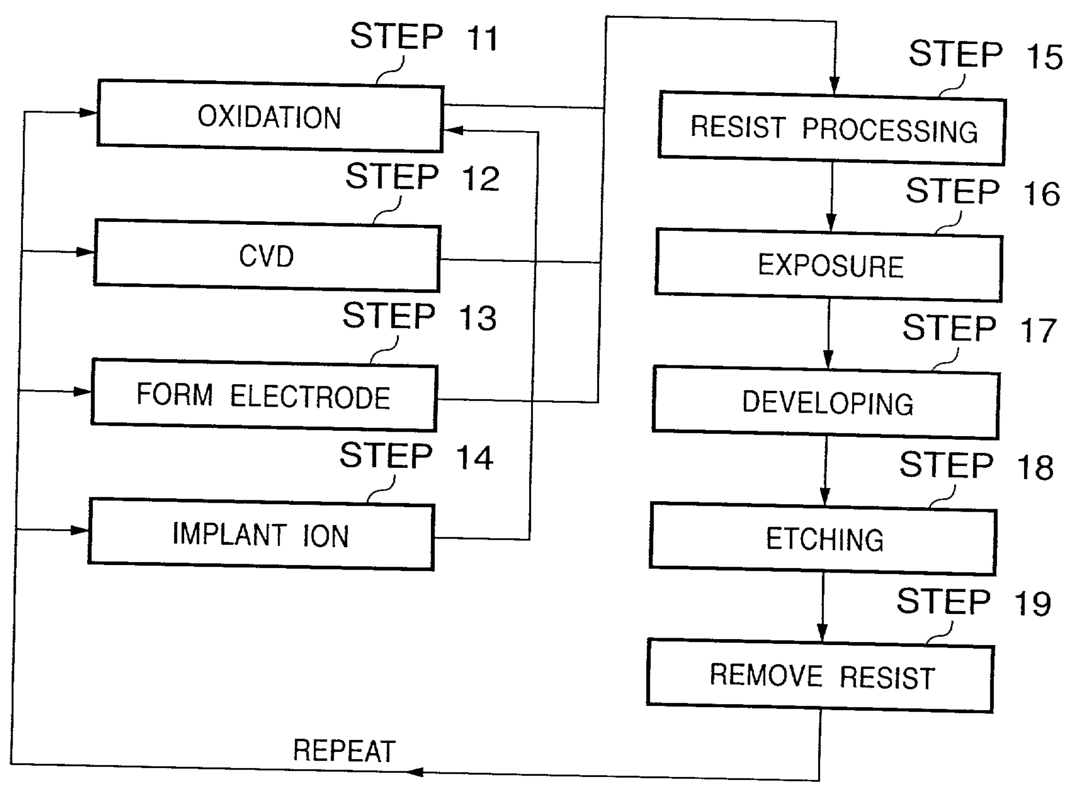

DESIGN CIRCUIT
STEP 1
MANUFACTURE WAFER
STEP 3
FORM MASK
STEP 2
WAFER PROCESS (PRE-PROCESS)
STEP 4
ASSEMBLY (POST-PROCESS)
STEP 5
INSPECTION
STEP 6
SHIPPING
STEP 7

FIG. 31


STEP 11
OXIDATION
STEP 12
CVD
STEP 13
FORM ELECTRODE
STEP 14
IMPLANT ION
STEP 15
RESIST PROCESSING
STEP 16
EXPOSURE
STEP 17
DEVELOPING
STEP 18
ETCHING
STEP 19
REMOVE RESIST
REPEAT